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BACKGROUND: Breast reconstruction remains an important field in plastic surgery, with most procedures utilizing implants and/or autologous tissue. Few series report on experience with fat grafting as the primary form of breast reconstruction. This study reports a novel method of breast reconstruction using a 3-dimensional absorbable mesh scaffold and subsequent autologous fat grafting (AFG).

METHODS: A retrospective review was performed for all patients who underwent breast reconstruction using Lotus scaffold and AFG. Postoperative mammogram and magnetic resonance imaging were analyzed, and tissue specimens collected at subsequent procedures were harvested and stained with H&E for histologic evaluation. Finally, compression testing of the scaffold was performed using a tensiometer and digital tracking technology.

RESULTS: Twenty-two patients underwent reconstruction of 28 breasts using Lotus scaffold and AFG between February 2015 and February 2018. Average follow-up was 19 months. All patients were satisfied with final breast shape and size. Mean patient age was 60.5 years, and average body mass index was 28. Patients required on average 2 fat grafting sessions to achieve a successful result (range, 1–4). Postoperative mammogram and magnetic resonance imaging revealed robust adipose tissue in the breast with a slowly resorbing mesh and no oil cysts or calcifications. Histologic evaluation revealed no capsule formation with ingrowth of fat tissue around the scaffold. Compression testing revealed that the Lotus scaffold is a compliant construct with a high resilience profile.

CONCLUSIONS: The Lotus scaffold with AFG is a viable method for breast reconstruction, giving the patient an autologous reconstruction with less morbidity than free tissue transfer.

Arnica Montana and Bellis Perennis for Seroma Reduction Following Mastectomy and Immediate Breast Reconstruction: Prospective, Randomized, Double-blinded, Placebo-controlled Trial

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PURPOSE: Seroma is a common surgical complication created by the inflammatory process that follows mastectomy and reconstruction.^{1,2} It is, therefore, common practice to insert surgical drains, which often remain in place for long periods and delay recovery.^{3,4} In light of the many advantages of homeopathic treatment, there has been a global trend of integrating this with conventional medicine.⁵ In this study, we examined the effect of *Arnica montana* and *Bellis perennis* on seroma prevention after mastectomy and breast reconstruction.

METHODS: This was a prospective, double-blind, randomized analysis of 55 patients (78 breasts) who underwent mastectomy and immediate breast reconstruction between January 2016 and August 2017. Patients were randomly assigned and treated with *A. montana* and *B. perennis* or placebo from surgery and up to the time of drain removal.

RESULTS: *A. montana* and *B. perennis* significantly reduced drain removal time (discharge <30 ml) by 18% (2.4 days; $P < 0.05$), 11.1 days (6.1 days) in the study groups compared with 13.5 days (6.4 days) in the placebo group. Age, body mass index, mastectomy type, and lymph node dissection were similar among groups. Patient opioid intake was lower ($P < 0.057$) in the study group. Quality of life, postoperative pain, hemoglobin and cortisol levels, and complications were not associated with any treatment.

CONCLUSION: *A. montana* and *B. perennis* have been shown to reduce seroma formation and opioid intake following mastectomy and reconstruction. Because this treatment lacks side effects and is inexpensive, it should serve as a valuable treatment adjunct in patients undergoing mastectomy and reconstruction.

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Are Transversus Abdominis Plane Blocks the New Standard of Care in Microsurgical Breast Reconstruction? A Systematic Review and Meta-analysis

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PURPOSE: Transversus abdominis plane (TAP) blocks have been shown to significantly reduce pain and narcotic consumption following several major abdominal surgeries; however, their widespread adoption in microsurgical breast reconstruction has been slow. This study investigates the current body of evidence on the use of TAP blocks in microsurgical breast reconstruction.

METHODS: A systematic review of patients undergoing autologous breast reconstruction with TAP blocks was performed. Information on patient demographics, pain scores, and postoperative narcotic consumption were noted. Meta-analysis of hospital length of stay (LoS) was performed using a random effects model.

RESULTS: Ten studies published between 2011 and 2018 were included. All studies were either a randomized control trial/prospective case-control study (LoE II [5, 50%]) or a retrospective cohort study (LoE III [5, 50%]). Across all studies, 174 patients (5 studies) received a single intraoperative TAP block injection, 185 patients (4 studies) received a TAP catheter for intermittent postoperative analgesia, and 325 patients served as controls for a total of 684 included patients. The majority of TAP block delivery techniques were ultrasound guided (7/10 studies). Liposomal bupivacaine (LB) was the most commonly used analgesic (4 studies, 139 patients) followed by conventional bupivacaine (3 studies, 105 patients). Studies reported on a mixed cohort of both unilateral and bilateral, and immediate and delayed reconstructions. Abdominally based flaps investigated included deep inferior epigastric perforator, MS-TRAM, TRAM, and superficial inferior epigastric artery flaps. Nine of the included studies analyzed postoperative narcotic consumption with the use of TAP blocks. Of those, all but one found a significant reduction in oral, intravenous, and/or total morphine requirements in the experimental TAP group when either the daily average and/or total inpatient consumption was compared to the control. Only 1 study performed a formal analysis of cost with the use of a LB TAP block

and found no statistically significant increase in hospital expenses in the TAP block group. Hospital LoS was significantly shorter for patients undergoing single intraoperative TAP block injection with any analgesic as compared to standard narcotic-based protocols (mean difference, -0.95 days; 95% confidence interval, -1.72 to -0.17 days; $P = 0.02$). Looking at TAP blocks specifically with LB, there was a mean decrease of 0.83 days as compared to the control which was not statistically significant (95% confidence interval, -1.90 to 0.25 days; $P = 0.13$). No study reported adverse outcomes related to the TAP injections themselves. One prospective cohort study specifically looked at chronic postsurgical pain outcomes following the use of standard 0.25% bupivacaine delivered via TAP catheters and found no significant reduction in the incidence of chronic postsurgical pain at 6 and 12 months.

CONCLUSIONS: Several high-quality studies have demonstrated that TAP blocks in microsurgical breast reconstruction significantly reduce narcotic consumption and hospital LoS. However, there remains considerable variability with regard to delivery technique, analgesic type, and dose. Although the current data support the use of TAP blocks in autologous breast reconstruction, additional studies with more standardized protocols should be performed to determine the most optimal practice.

Is Ptosis Inadequate as Selection Criteria? The Midclavicle-to-Inframammary Fold Distance Predicts Ischemic Complications in the Inframammary Approach to Nipple-sparing Mastectomy

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INTRODUCTION: Anatomical exclusion criteria for nipple-sparing mastectomy was defined as “not excessively large or ptotic breasts.” However, morphologic criteria such as ptosis and sternal notch to nipple have not been shown to predict ischemic outcome. In this presentation, we introduce a novel midclavicular-to-inframammary (MCI) fold measurement for nipple-sparing mastectomy (NSM) performed through an inframammary approach and demonstrate it to be predictive of mastectomy weight and ischemic outcomes.